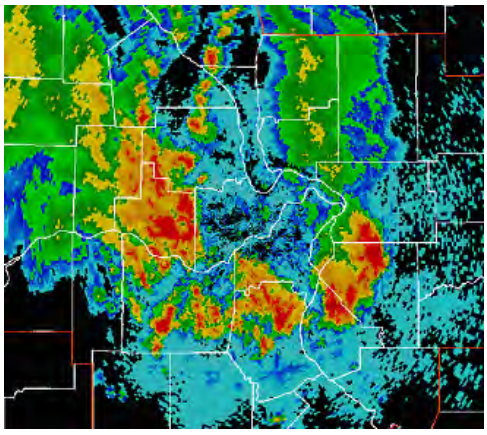
Missouri Public Service Commission

Staff Report on Restoration Efforts of AmerenUE Following Severe Thunderstorms on July 5th, 2004



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Introduction

This report is the result of the informal investigation of the Staff of the Missouri Public Service Commission (Staff) into the response of AmerenUE (AmerenUE, Ameren or Company) to severe thunderstorms that passed through central and east central Missouri on July 5, 2004. This series of storms delivered large hail, very high winds, torrential rains and included an extraordinary number of lightning strokes. These storms inflicted extensive damage to AmerenUE's distribution system and impacted over 250,000 customers. The last investigation of this type performed by Staff was a result of the major ice storm that struck western, north central and northeastern Missouri in January of 2002. Over 400,000 customers were impacted by this ice storm.

During the thunderstorms on July 5, 2004, peak wind velocities of approximately 92 mph were measured. The basic design wind speed for many facilities in this region is 70 mph. Pressure on structures resisting wind loads increases in proportion to the square of the wind velocity, so it is significant that wind velocities were observed that significantly exceeded 70 mph. This helps to explain why such broad damage was reported throughout the region impacted by these storms. These high wind speeds were the primary contributor to the extensive damage that was inflicted on AmerenUE's distribution system as a result of these storms. Much of the residential area impacted by these storms in the St. Louis area is forested and many of these trees are large and mature. While this greatly contributes to the beauty of the area, it does pose a risk during major storms (ice or high winds). Much of the reported damage from these storms was associated with downed trees, broken limbs and broken utility poles associated with downed trees and/or limbs. The ground being very moist from significant rainfall before these high winds arrived made the downed tree situation worse.

Electric utilities prepare for severe storms by developing a written plan to follow when abnormal events cause extensive outages to customers. These severe thunderstorms attracted the attention of AmerenUE as they approached because of the potential for damaging winds, lighting and tornadoes. AmerenUE activated their emergency operations center in St. Louis following the first band of storms on July 5, 2004 and was pursuing all available assistance from neighboring utilities and states before the day was over. This report will chronicle the response of AmerenUE to this series of thunderstorms. Staff's observations and recommendations based on the information available to it at this time are also included in this report. Empire District Electric and several rural electric cooperatives also experienced significant outages as a result of these storms.

Overview

AmerenUE provided information to the Staff on a daily basis during the restoration effort from these storms. In addition, the Staff obtained data from AmerenUE compiled during and after these storms, much of which is presented in this report. Interviews were conducted with the personnel responsible for implementing the restoration plan at AmerenUE as part of the review conducted by Staff associated with this informal investigation. Of particular interest were the tree-trimming schedules of electric circuits and if the trees were recently trimmed or if they were past their scheduled intervals when they were damaged by these storms.

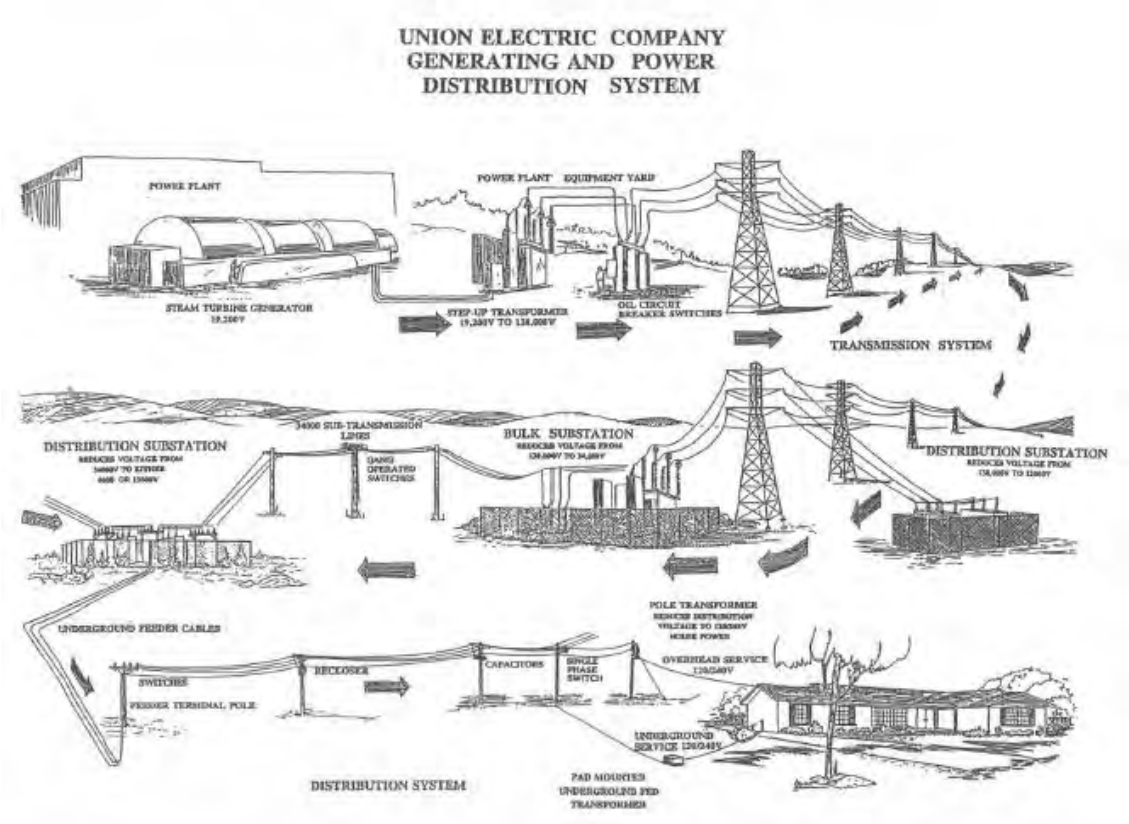
The Staff responded to a significant number of customer complaints and inquiries to the Missouri Public Service Commission (Commission or PSC) during and after these storms. Concerns expressed included the difficulty in contacting the utility, inaccurate information concerning restoration times, allocation of crews, power lines on the ground, and frustration associated with living in the dark for several days and having to throw away frozen goods.

An issue from Staff's report following the snowstorm in 1996, the ice storm of January 2002, and these storms, was the inability of customers to contact a person at their utility by telephone. With the level of damage from these types of events, and the number of customers affected, it is not practical to have enough Call Center representatives available to respond to all customer calls. The automated systems now in operation allow customers to input information to the computer that generates work orders. Customers should allow the computer to capture this information by responding through the automated system. After the ice storm of January 2002, Staff encouraged the utilities to pursue ways to provide positive feedback to customers that their outage was recorded, to convey assurance that their outage report had been received. Staff also expressed an interest in development of tools to give customers an estimate of how long they might be without service.

Staff's report following the snowstorm of 1996 noted that funding levels for tree trimming must be maintained at KCP&L and MPS. The Staff report following the January 2002 ice storm recommended that AmerenUE's tree trimming effort continue to be funded adequately. In Staff's January 2002 ice storm report it was noted that funding for vegetation management had generally been increasing at AmerenUE. This report shows that funding is no longer increasing and has actually decreased somewhat in recent years.

The responsibility of trimming trees along the service line to a home is often an area of concern and misunderstanding. Electric utilities trim trees where they have a dedicated easement that allows access for maintenance. These easements include the recorded utility easements and public right-of-way. Service lines to the home cross private property without a specific easement and utilities do not trim these trees. Electric utilities will disconnect service lines, typically at no charge, to allow property owners or contractors to safely trim these lines. This report further details the responsibilities of AmerenUE regarding service lines.

The primary conductors (typically 7,200 volts) of the distribution system are not insulated and contact with tree limbs can cause arcing or electrical short circuits to ground. This contact may cause quality of service problems for sensitive electrical equipment. Service lines (typically 240 volts) are insulated and can tolerate incidental tree contact. Much of the damage to AmerenUE's system from these thunderstorms was to its distribution system. The following diagram illustrates the major elements of the infrastructure that AmerenUE depends on to deliver electricity to its customers:



The high winds from these thunderstorms sometimes caused trees off the right-of-way to fall through the electric lines. Even if properly trimmed, trees cause extensive damage to electric facilities in these circumstances. Removal of over-hanging limbs improves the situation. Transmission lines are trimmed to the edge of the right-of-way to protect the line from falling trees, but these lines have easements 100 to 150 feet wide. Transmission lines provide service to many customers and are protected by a much higher standard to ensure reliability.

AmerenUE quickly mobilized its available crews following the morning band of storms on July 5th. By the time the evening band of storms had passed through the St. Louis area AmerenUE was actively pursuing outside assistance from all available contract crews. Contract crews from within the state and from other states started arriving in significant numbers on July 6th and provided a significant additional workforce to repair the electric distribution system. The Storm Restoration Guide used by AmerenUE provides the organization and structure needed to manage a workforce several times larger than normal.

Customers trying to call their utility to report outages were frustrated by the difficulty in reaching a person, a lack of answers to questions about when power would be restored and inaccurate restoration times provided by AmerenUE's automated calling system. Frustrations grew as hours without power turned into days for some customers, with the consequences of lost property, business, and fading confidence that all that could be done was being done to restore service as quickly as possible.

From an overview perspective, the Staff finds that AmerenUE did respond in accordance with their emergency plan. Could there be improvements, certainly. Electric customers could recognize problems brought by these severe storms, but desired more information on where work was focused and when to expect restoration of power. The customers desired feedback and affirmation their outage was recorded and when to expect service. Many sought information from websites and Staff expects that this media will be used more in future outage situations.

Computer access is not available to homes without electric service but many customers still find ways to access websites. Other media is very important to provide information to customers. AmerenUE had developed an algorithm for estimating customer restoration times but found that it provided unreliable information under the extraordinary circumstances associated with this restoration effort. Unfortunately this automated function instilled false hope in some customers and only increased their frustration level. Staff is hopeful that the limits of this algorithm can be identified and it

can continue to be used when appropriate. Many customers are interested in knowing when their utility anticipates service will be restored and Staff sees the efforts of AmerenUE in this area as helpful and responsive to their customer's needs.

AmerenUE utilized a callback function to determine if customers had their service restored after particular elements of their system had been repaired. This automated calling system would call customers on a circuit that had been repaired and then ask that they hit a particular key to identify if their service had been restored or not. Through this feedback AmerenUE is able to more quickly identify additional damage downstream of the initial identified damage that was just repaired. While this is a good approach to identify additional damage to the system, and more efficiently repair this damage, the message to customers by the calling system was misunderstood by some customers. Some customers thought the message was saying that service had been restored to their residence when it had not been. AmerenUE is considering several possible changes to this message to make it clearer.

The availability of supplies to repair facilities to restore electric service was an issue AmerenUE considered and planned for before these storms. AmerenUE has several trailers that it stocks with supplies necessary for major repair efforts and places these trailers in strategic locations during major restoration efforts.

The Staff makes a number of recommendations to AmerenUE in this report based on its observations during this informal investigation. These recommendations are as follows:

1) Staff strongly recommends that AmerenUE immediately implement programs to begin addressing the existing backlog in the tree trimming cycles of its distribution systems in rural and suburban areas. AmerenUE's efforts to address this current backlog in distribution system trimming should not be implemented through any types of reductions in current efforts to adequately control vegetation along their transmission system corridors or in reductions in efforts in other areas that could impact system reliability or safety. Staff notes that AmerenUE has policies currently in place regarding vegetation management, working with impacted landowners and public relations. AmerenUE should not diminish or stop applying any of these customer relation policies or practices in its efforts to address this current backlog in tree trimming work.

2) Staff recommends that AmerenUE review the current utility mutual assistance agreement they participate in and confirm that reasons other than actual crew availability are not resulting in a reduction in availability of outside crews when they may actually be available under different terms and/or conditions.

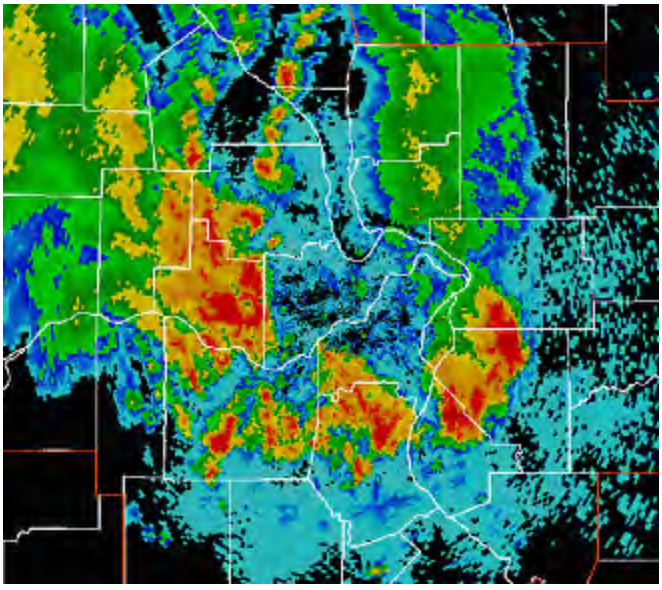
3) Staff recommends that AmerenUE examine the limitations of the algorithm being used to estimate restoration times for customers. The Staff has been supportive of the Company providing the customer with an estimate of the expected restoration time associated with their outage. However, it appears that the algorithm used to calculate these times becomes inaccurate when applied to a large outage. The Company should review the methods used to develop these times to determine what circumstances make these calculations inaccurate. If these limitations can be identified and corrected for, an alternative method should be developed that can be used under these conditions in order to continue to provide customers with some estimate of their restoration time.

4) Staff recommends that AmerenUE evaluate the effectiveness of the messages they leave the customer with the callbacks conducted to verify the restoration of service. AmerenUE should develop some alternative wording that clarifies what these messages are intended to convey and more clearly directs the customer on what to do if their power has not been restored. While the callback system can be an effective way to communicate with the customer, some customers misunderstood the present system messages.

5) Staff recommends that AmerenUE add language to their medical equipment registry enrollment letters that clearly states that medical equipment registry customers may experience lengthy outages as a result of major disruptions to AmerenUE's system, including severe weather, and that medical equipment registry customers are not ensured priority treatment during restoration efforts to repair AmerenUE's distribution system following these events.

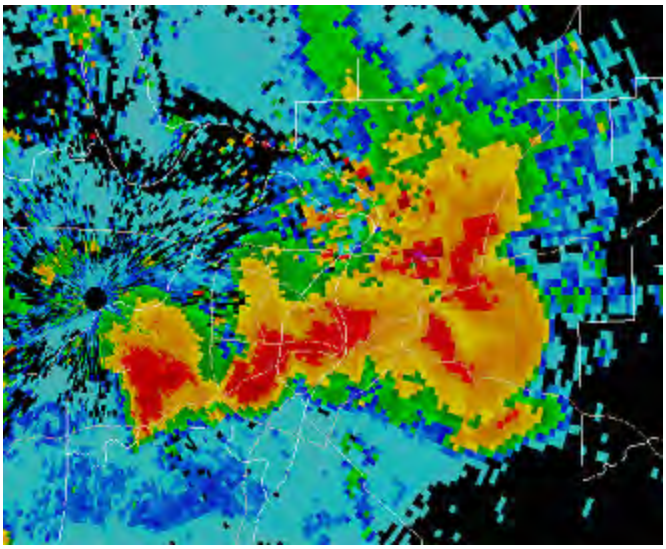
Storm Arrival Times & Intensities

On Monday, July 5, 2004, a series of intense thunderstorms passed through central and east central Missouri. These storms resulted in extensive electric utility customer outages in the St. Louis area in AmerenUE's service territory. The first band of storms passed through central Missouri early on the morning of July 5th. These storms intensified as they traveled east and were causing significant damage to AmerenUE's distribution system by 8:30 AM. By 10:00 AM this first band of storms were largely out of Missouri and impacting distribution systems in Illinois. This first band of storms delivered hail, very heavy rains and damaging winds with gust estimated in the 60 to 70 mph range. Approximately 75,000 customers were without power following this band of storms. It should be noted that normal building codes in this region of the country require that facilities be designed to withstand a basic wind speed of 70 mph (not adjusted for gust and exposure factors). This magnitude of winds is not a common occurrence and will frequently cause significant damage to trees. July 5th, 9:00 AM Radar Image of the St. Louis Area (by NOAA):



AmerenUE activated their Emergency Operations Center (EOC) at 10:00 AM on July 5th in response to the extensive damage this band of storms caused to their distribution system in the St. Louis area. They declared this storm as a Level III (major) storm. This level of storm is the most intense recognized in AmerenUE's Storm Restoration Guide (Guide). Restoration efforts began shortly after this band of storms passed and approximately 45,000 customers had their service restored by 4:00 PM on July 5th.

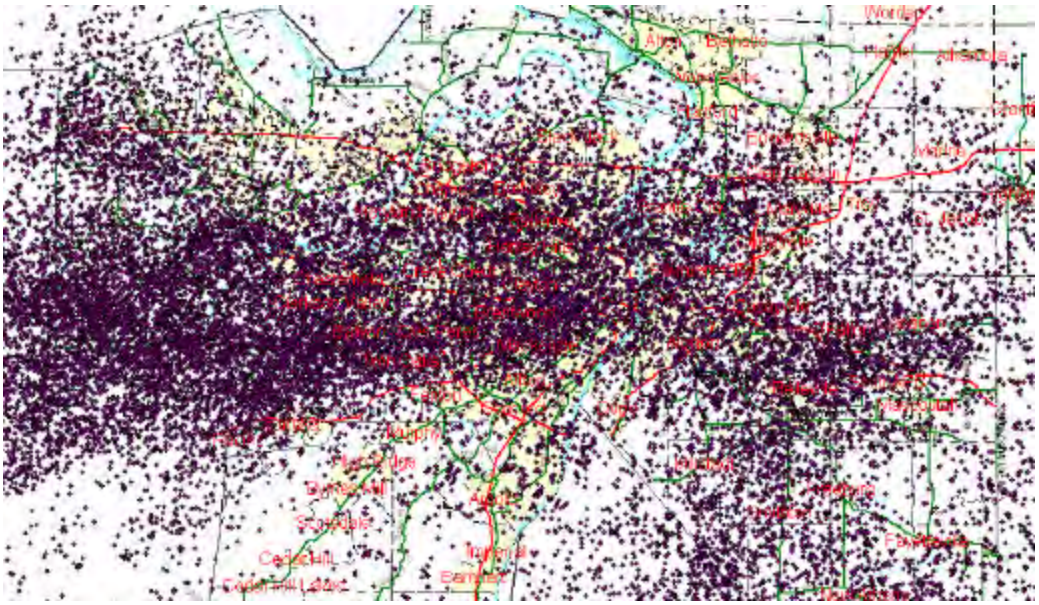
By 7:00 PM a second band of storms was forming west of St. Louis. Between 7:00 and 8:00 PM a warning was issued for St. Charles County in response to observed formation of severe thunderstorms west of the area and potential further development of these storms. By 8:00 PM large hail, high winds, and extensive tree damage was being reported in the St. Louis metro area. The peak of the storm's intensity was at approximately 8:30 PM with large hail, extremely high winds and almost continuous lightning being reported. Hail up to 1.5 inches in diameter was reported associated with this storm. Torrential rains were associated with the intense wind and lighting of this storm, which did not leave the Missouri service territory of AmerenUE until after 9:30 PM. At the conclusion of this storm various agencies reported that large tree limbs and trees were down, traffic signs were damaged, buildings and cars were damaged and that electric utility poles and lines were down throughout the area. Over 250,000 Missouri customers were without service at some point as a result of these storms. At the conclusion of the evening storm about 174,000 customers were without service in AmerenUE's Missouri service territory. July 5th, 8:30 PM Radar Image of the St. Louis Area (by NOAA):



Peak wind speeds from this storm were measured at 92 mph. As previously noted, the basic design wind speed for most facilities in this region is 70 mph. Wind applied loads increase in proportion to the square of wind velocity so this storm could have reasonably caused damage to facilities that were designed to current code requirements. Extensive tree damage should be expected with any storm with wind velocities that are this high. Another very dangerous aspect of this storm was its extremely intense lighting activity. AmerenUE shared lighting stroke information from a past storm that was relatively intense and showed that about 10,000 strokes of lighting were observed in that storm.

This storm delivered in excess of 25,000 lighting strokes with a peak hour of almost 10,000 strokes.

This map shows lighting stroke locations associated with this storm in the St. Louis area (provided by AmerenUE):



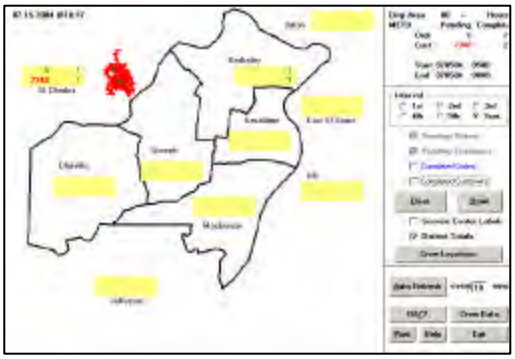
A picture of one of the trees that was toppled by the winds associated with this storm (provided by AmerenUE):

Outage Tracking & Period of Service Restoration Work

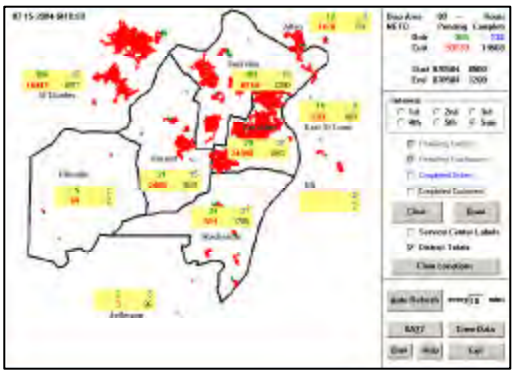
AmerenUE activated its Emergency Operations Center (EOC) at 10:00 AM on July 5th immediately after the first band of storms had passed and the level of damage to AmerenUE's distribution system had been at least preliminarily assessed. AmerenUE declared this storm a Level III (major) storm. This level of storm is the most intense recognized in AmerenUE's Storm Restoration Guide (Guide). The Guide has been developed by AmerenUE to communicate policy regarding EOC operations and to serve as a reference tool for managing restoration following major storms. Storm levels defined in the Guide outline the response necessary to get customers back in service, based upon the number of customers affected and the extent of the damage.

AmerenUE utilizes an Outage Analysis System (OAS) to track and coordinate repair of outages. AmerenUE managed the restoration from its EOC by coordinating the callout of crews from other districts and providing the necessary resources. Local managers directed the response in the field. The OAS provided the electronic capacity for the storm coordinator to manage the restoration. Input to the OAS includes information from the Call Center from customers and electronic information from the CellNet automatic meter reading (AMR) system. The OAS has the ability to group the information from various sources, estimate where the system fault has occurred, and provide this information to the service crews to speed the restoration of service. Orders were sent to terminals in the service trucks where they were accepted by the servicemen and cleared when completed. The OAS also has the ability to provide graphical representation of areas where customers are currently without service and where customers have recently had their service restored. The images on the next page from AmerenUE's OAS show the areas where customers experienced outages and the period over which service was restored to all customers.

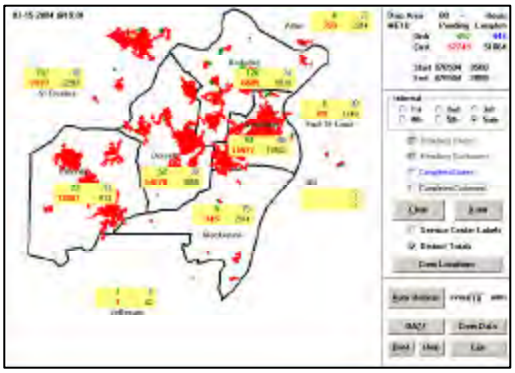
July 5th, 8:00 AM OAS Status:



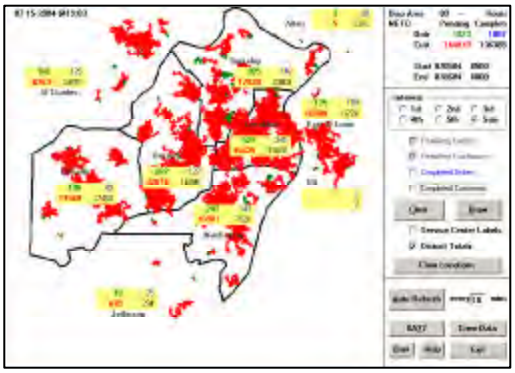
July 5th, OAS Status by Noon:



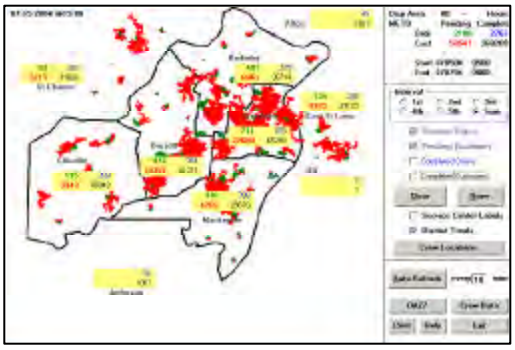
July 5th, OAS Status by 8:00 PM:



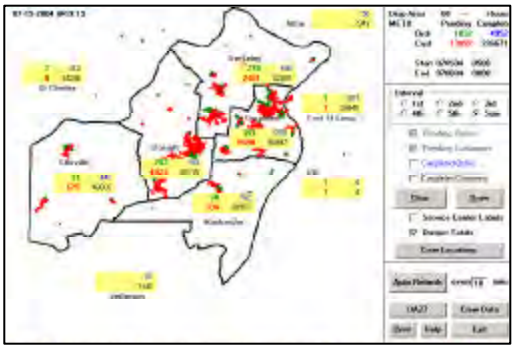
July 6th,OAS Status at 8:00 AM:



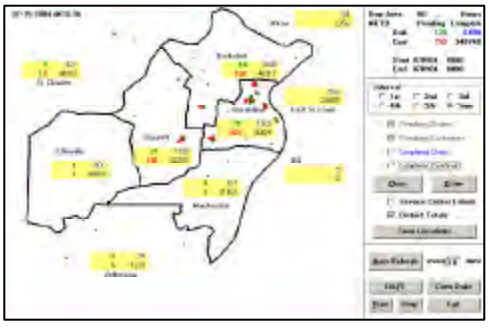
July 7th, OAS Status at 8:00 AM:



July 8th, OAS Status at 8:00 AM:



July 9th, OAS Status at 8:00 AM:



By 10:00 PM on July 9th approximately 171 customers were without service. This number was worked down over the following 24 hours to a very small number of remaining customers who had particularly difficult circumstances associated with their outage.

Staff's review of AmerenUE's efforts to identify the risks that these storms posed to their system, the timeliness of activation of their EOC, and their determination of the level of damage to their system after this band of storms did not result in any recommendations for improvements in future responses at this time.

Evaluation of Crew Needs, Efforts to Retain Needed Assistance, When Crews Were Called In & How Long They Were Kept

The first band of storms on the morning of July 5th resulted in requests for all available crews from the AmerenUE operating centers. This resulted in an increased number of linemen and tree trimmers working on the restoration effort. July 5th was the last day in a holiday weekend and although many personnel reported for service, including a number of personnel who cancelled their annual leave, it appears that the availability of crews on this short notice was at least somewhat impacted by the number of personnel out on holiday leave who were not available on July 5th. The second band of severe storms that arrived late in the evening of July 5th clearly created a much more urgent need for all available crews from all nearby utilities. The evening storm resulted in requests for all available crews from AmerenCIPS and AmerenCILCO operating centers as well as request for contract lineman crews from several utilities in the Midwest. Of the 22 organizations contacted, 10 were able to provide additional crews to assist AmerenUE. The immediate result of these efforts to bring in additional linemen was approximately 270 Ameren linemen reporting for work at about 5:00 AM on July 6th. Approximately 150 contract lineman also arrived at AmerenUE on July 6th. All of the 12 organizations that did not provide crews indicated that they had no crews available. This was attributed at least in part to the distribution of storms in the 24 hours preceding these requests for assistance and associated damage to other utilities' systems.

It is Staff's understanding that more crews could have been called from greater distances away but AmerenUE's evaluation of the anticipated length of the outage indicated that by the time crews from farther away than those requested were able to outfit their trucks, drive to AmerenUE, receive their work orders and actually begin to contribute to the restoration they would only be needed for a day or less. Staff would also note that all of these requests for additional contractors were for additional linemen. AmerenUE did not seek additional help in the tree trimming effort associated with this restoration effort

since it believed that their contracted tree trimming crews would able to stay ahead of the linemen. If AmerenUE's tree crews were able to stay ahead of the linemen then it is true that no additional tree trimmers would be needed since they would not be "critical path" in the restoration effort. Staff would however note that it received several complaints from customers reporting that tree trimming crews were not in their area for a significant amount of time after the storms and when they did arrive they were called away on other efforts before their work was done. Staff understands that this repositioning of crews is not a common occurrence since it impacts efficiency. Circumstances that result in repositioning typically relate to damage to portions of the system that are serving large numbers of customers and are on a significantly higher priority for repair than the portion of the system the crew is working on at that time. The following table shows the Contract Crew Linemen/Crew Staffing by day of restoration effort:

Date	No. Crews	No. Linemen
5-Jul-04	6	19
6-Jul-04	47	150
7-Jul-04	52	165
8-Jul-04	62	196
9-Jul-04	62	196
10-Jul-04	Contract Crews Released	

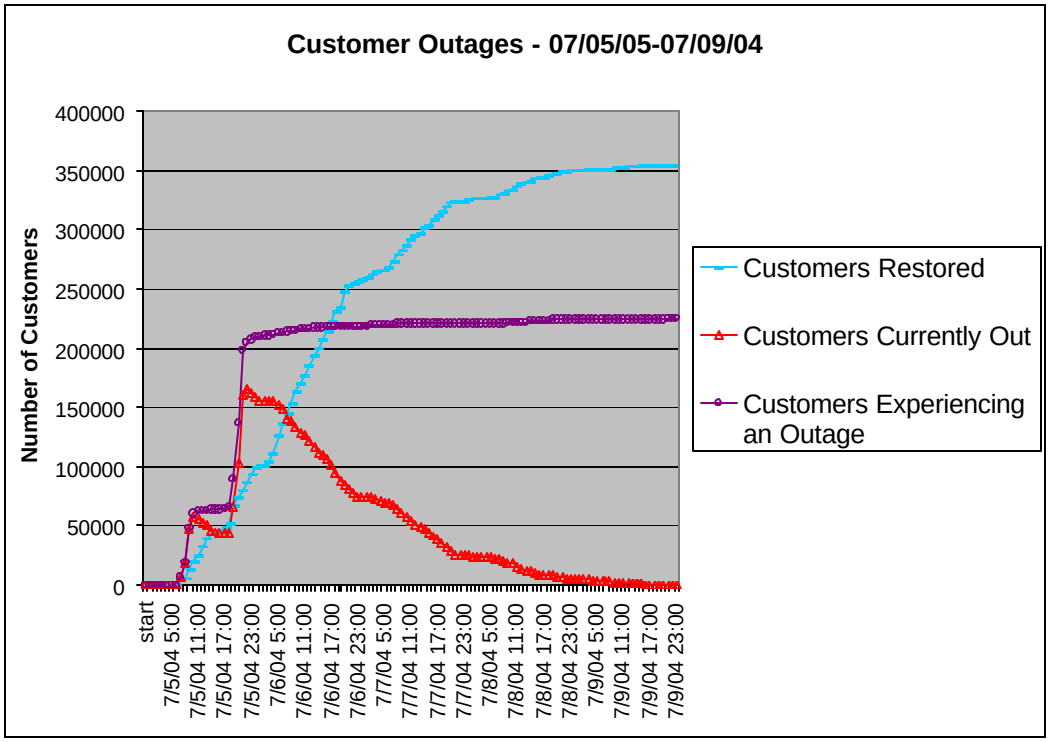
The following provides a summary of the personnel resources that were sent to the field to support this restoration effort:

Linemen/Troublemen	**596**
Field Checkers	**80**
Tree Trimmers	**250**
Other Field Forces	**40**
Total Field Personnel =	**966**

The table above for field resources does not include supervisors, superintendents, engineers, dispatchers, dispatch supervisor, storm center personnel, materials management personnel, call center, fleet, and logistics support. The 250 tree trimmers identified above were divided into 105 crews. All crews generally worked 16 to18 hour days through Friday, July 9th. The tree trimming crews completed approximately 2,100 orders and cleared approximately 6,300 trees and branches. AmerenUE has indicated that this is approximately the same effort as required to clear 60 miles of circuit. The field checkers noted above are vital as they determine what types of crews and equipment need to be sent to each area where damage has occurred. This helps in the efficient allocation of crews and equipment to particular repairs.

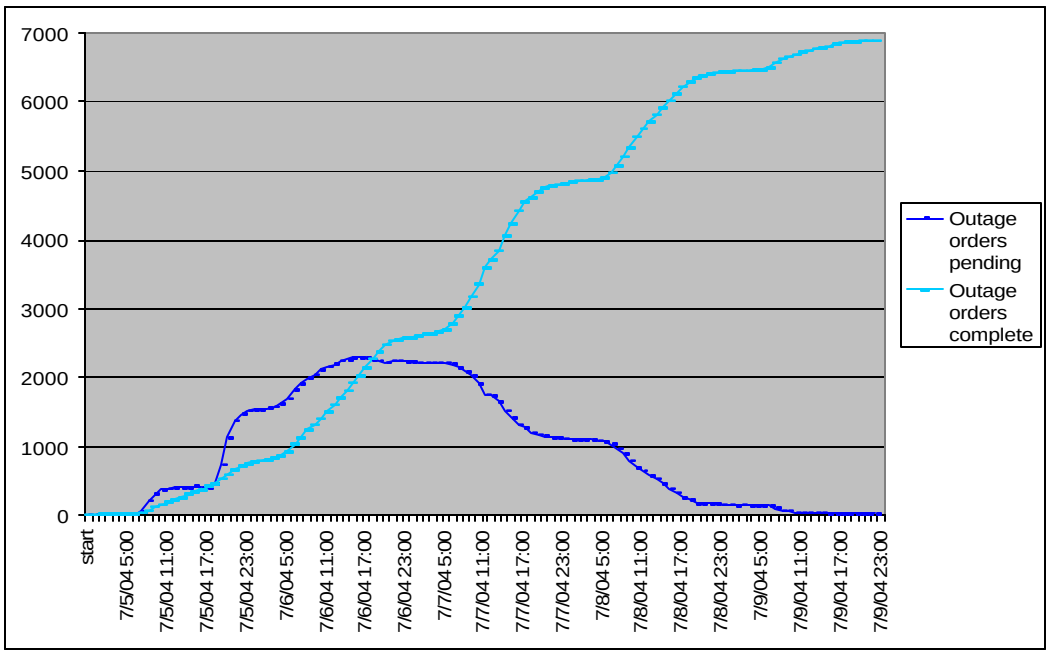
Outage Restoration Prioritization

Typical utility service restoration efforts after a major outage event such as this one focus on bringing as many customers back on as quickly as possible. This approach is advantageous to the greatest possible number of customers. This approach is not however advantageous to the individual customer who may have extensive damage to the distribution system that serves only their home or a small group of homes. This approach may also not be advantageous to the individual who may be a registered medical-need customer but has several items that need to be repaired in order for their service to be restored. This procedure must however recognize that certain critical facilities like water pumping stations, sewage pumping stations, hospitals, fire stations, police stations, and identified shelters necessary for life and safety must have their service restored as quickly as reasonably possible. These priority exceptions for life and safety related reasons do not currently extend to care facilities for the elderly or disabled. It is Staff's understanding that AmerenUE follows this policy in its allocation of resources to respond to major outage events. Staff believes this is an appropriate policy for allocation of personnel and equipment resources during major restoration efforts as it results in the greatest number of customers being brought back on in the shortest period of time. The efforts of the personnel and equipment that were allocated to repair AmerenUE's distribution system after these storms resulted in the following restoration rate information (data from AmerenUE).



At first glance it is difficult to understand how the "Customers Restored" line in the previous graph could be higher than the "Customers Experiencing an Outage" line. What this difference in lines is primarily showing is the number of customers that were out as a result of more than 1 fault between their residence and the operating portions of AmerenUE's system. These customers are counted two or more times when their outage is partially repaired by one system repair but one or more additional system repairs are necessary to actually get power to their residence.

Another way to look at this data is to look at the outage orders complete at any given time versus the outage orders pending as shown in the following graph (data from AmerenUE). This graph clearly shows that the greatest productivity rates for the crews were observed July 6th and July 7th with a declining productivity on July 8th and especially on July 9th. This is a normal trend in productivity with major restoration efforts if the utility is focusing on the repair items that impact a large number of customers first and moving on to more individual house-by-house outage situations toward the end of the restoration effort. The arrival of additional crews and time required for them to become effective is also shown in this data in the difference in productivity rates between July 7th (the most productive day in terms of orders completed) and July 6th (the first full day of work after the storms and the second most productive day). This may also be an illustration of the level of tree related damage from these storms and how long it took to make progress clearing the debris.



Finally, a summary of how many customers were impacted by these storms and what percentages of these customers had their service restored in the following time periods is provided in the following table (data from AmerenUE):

Duration	Orders Completed	Customers Restored	Percent Restored
Less than 24 hours	4800	278,000	78%
Less than 48 hours (2 days)	1420	59,700	17%
Less than 72 hours (3 days)	610	16,700	4%
Less than 96 hours (4 days)	65	980	Less than 1%

Staff's review of AmerenUE's efforts to acquire additional resources immediately after these storms indicates that while many utility contractors were contacted only a limited number were able to provide additional resources even though damage to areas outside of AmerenUE's service territory was not as severe and in some cases light. This leads Staff to recommend that AmerenUE review the current utility mutual assistance agreement they participate in and confirm that reasons other than actual crew availability are not resulting in a reduction in availability of outside crews when they may actually be available under different terms and/or conditions.

Medical Equipment Customer Registration & Notification

In Staff's report following the major ice storm in January of 2002, the following recommendation was directed at AmerenUE:

> *Structure a curriculum that periodically informs and updates the medical-need customers and communicates the expectations of the program.*

This recommendation was in response to complaints directed at Kansas City Power & Light and Aquila by medical-need customers indicating that they believed they should have received some type of priority treatment in the restoration effort of their utilities following this major ice storm. The priority provided to customers with equipment related to a medical equipment need is primarily for planned outages associated with work on elements of the distribution system that may result in interruptions in service.

Customers or household members who require the use of electrically operated medical equipment may enroll in AmerenUE's Medical Equipment Registry. Equipment that qualifies for this registry includes, but is not limited to, heart monitors, home kidney dialysis, respirators, continuous feeding devices and nebulizers. A physician's statement is required for enrollment.

Customers with registered medical equipment needs have their accounts coded to denote medical equipment when work on the system that delivers power to their residence is planned. AmerenUE mails a notice to "medical equipment registry" customers each year to have them document whether or not they should remain on the registry. The current utility practice (relatively consistent across all utilities) is that medical need equipment list are used as a mechanism to identify and notify customers with special medical equipment needs of planned service interruptions, and not as a list for establishing priority in reconnections after major outages.

As previously noted, utility procedures for major restoration efforts focus on returning the greatest number of customers to service in the least amount of time. Efforts to return particular customers to service faster than they would otherwise be returned to service by the current policy could contribute to the length of time other customers have to wait to have their service returned.

Staff reviewed AmerenUE's current medical equipment registry provisions and has confirmed that the letters to medical equipment registry customers for enrollment in this program do indicate that AmerenUE does not guarantee uninterrupted electric service and that the customer may want to refer to the supplier of their equipment or their physician for a back-up system. Medical equipment registry customers receive a priority phone number to call when they experience an outage, receive special consideration before their service is cut for nonpayment, and a sticker with the priority outage reporting phone number to place near their phone.

Staff's view of the current information provided to medical registry customers is that not enough information is being provided to these customers to clearly inform them that being enrolled as a medical registry customer does not mean that they are ensured priority treatment following major outage events.

Call Center Operations & Automated Call Back Functions

In Staff's report following the major ice storm in January of 2002, the following recommendation was directed at AmerenUE:

> *Pursue ways to provide positive feedback to customers that are routed to the Interactive Voice Response system for assurance that the reported outage has been received.*

This recommendation was in response to numerous complaints directed at Kansas City Power & Light and Aquila by customers indicating that they were dissatisfied with the level of information they received when they called the utility to report an outage and this caused them to call in numerous times in an effort to make sure that their outage information had been received and was being worked on.

Ameren provides customers with an 800 number to contact its Call Centers (or Contact Centers) for a variety of services and questions. The St. Louis metropolitan area may use local numbers for outages and billing. Under normal conditions, these calls will go to any of the three Company operated Call Centers located in St. Louis, Jefferson City and Cape Girardeau.

When the customer dials the 800 number, they first reach the Voice Response Unit (VRU), which helps to categorize their call and route it to the next appropriate group of options available to handle their request. Based upon the nature of their call, they will be able to select the option that can most quickly handle their call. During the hours of 7:00 AM to 7:00 PM Monday through Friday, the options available include eight different routings for the customer's inquiry. The first option is billing because of its frequency. The second option is to report an outage. When the customer selects the outage report, they are then given three options. The first option presented is if there is a light out to report. Lights out asks the customer to input a phone number. The system then looks for a match and asks the customer to verify if the information is correct. If there have been enough calls entered into the system to make some determination of the extent of the outage, then the customer will be given information on the number of customers affected and the estimated time of restoration. The estimated time of restoration is calculated using an algorithm. At any time if the customer does not provide the requested information, the call will be transferred to an agent. The second option is if there is a wire down or gas odor. These calls go straight to an agent. The third option is if there is a streetlight or other outage. This option also asks the customer to input a phone number.

If the customer has opted to speak to an agent, the representative will take the information and enter it into the Company's outage system using a trouble screen. The representative can give the customer information to let them know if the specific cause has been identified (i.e. feeder is out), whether a crew is assigned to the outage, and the approximate number of other customers being affected.

The Company staffs its Call Center based upon historical levels of volume at various times of the day, week and month. However, when a major outage occurs, the normal level of resources will be unable to process the volume of calls that may occur. Ameren has a number of options available to it on how to increase its call handling ability under high call volume situations.

The first option is the addition of telephone trunk lines to accept outage calls. Ameren subscribes, as many other companies do, to a service that allows them to access additional telephone trunk lines in the event of an emergency that presents them with a high volume of calls. As the number of calls going to the VRU reaches its maximum volume, the additional trunk lines from NNC (company providing trunk line service) are automatically accessed. Outage overflow calls accessed these trunk lines starting on Monday, July 5th and continued through Friday, July 9th. Additional trunk lines through this service provided the Company with the capability to accept an additional 20,000 calls an hour using an automated VRU to collect the outage information. These outage reports were then automatically entered into the outage system to be worked in the field.

Another option was to reallocate some of its present resources, which may normally be used for handling billing inquiries or credit and collection calls to taking outage calls. The Company utilizes First Contact to assist it by handling customer calls involving payment arrangements and delinquent accounts. An actual service representative who can access the Customer Information System (CIS) system and respond with information responds to these calls. Ameren is able to request that First Contact assist in these situations by accepting outage calls. When call volume continued to increase on Tuesday, July 6th the Company brought them on to also accept outage calls.

On a normal weekday, the Company would have been staffed by 115 representatives taking calls at the Call Center. Given that it was a holiday weekend when the storms occurred, overall staffing was down at the Call Center. Call volumes are normally lower on a holiday and increase the next workday after. Ameren kept its own agents overnight, called in employees, and activated all of its home agents. The Company also enlisted the assistance of service representatives from AmerenCIPS and AmerenCILCO to start taking emergency calls (fire and police, wire down and gas odor) on the evening of

Monday, July 5th. The CILCO and CIPS agents were retained to assist in handling calls until Friday, July 9th.

The following chart shows the number of personnel taking calls during the period of July 5th through July 9th:

Contact Center Staffing

	7/05/04	7/06/04	7/07/04	7/08/04	7/09/04
Number of Ameren employees:	63	204	215	191	187
Number of Outsourced group:	0	32	29	24	22
Total:	63	236	244	215	209

Source: Ameren

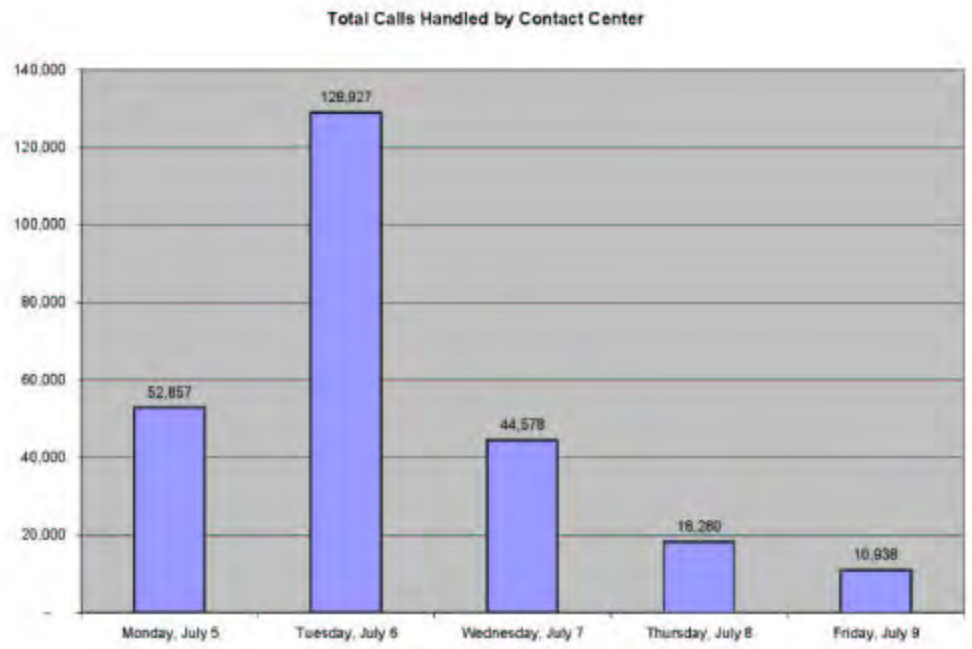
Once the second storm hit on Monday evening, the Company received an even higher level of customer calls as it had not yet recovered from the effects of the storm it endured that morning. The following table illustrates the number of calls and the various ways that these calls were handled over the 5 day period of the storm restoration:

Contact Center Statistics

	7/05/04	7/06/04	7/07/04	7/08/04	7/09/04	Totals
VRU orders (outage only):	18,723	32,956	19,976	6,285	1,141	79,081
NNC-Hanover overflow (outage only):	26,803	70,148	7,352	3	273	104,579
AmerenUE agents (all calls):	6,722	21,811	13,667	8.810	7,976	59,086
AmerenCIPS agents (outage only):	551	882	705	320	110	2,568
AmerenCILCO agents (outage only):	58	645	968	1,160	156	2,987
Outsourced group:	0	2,485	1,910	1,602	1,282	7,279
Total Calls:	52,857	128,927	44,578	18,280	10,938	255,580

Source: Ameren

The VRU and the use of the overflow telephone trunks through NNC provided the Company with the ability to accept a great number of outage reports quickly and efficiently. While some customers prefer to speak to an actual customer representative, these methods do allow the Company to at least accept outage reports. The peak for the number of calls received by the Call Center was reached on Tuesday, July 6 when the Call Center processed 128, 927 calls.



Staff reviewed the number of average daily calls that were handled by the Call Center over the last several years. The number for the July 2004 storm represents the average daily number of calls over the 5 day period of the outage. These figures are provided in the following table for comparison.

Contact Center Average Daily Calls

2002	2003	Jan-June 2004	Storm 2004
11,334	9,642	7,095	51,116

Information provided to the Staff pertaining to the ice storm in January of 2002 provides some additional perspective on the severity of this July storm. The Company handled a high of approximately 21,000 calls on one day during the peak of the January storm as compared to the approximate 128,927 calls it handled related to these storms. The nature of this storm caused severe and widespread damage and subsequently prompted a very high level of calls.

An additional concern during periods of high call volume relates to the wait experienced by the customer in trying to access the system to report their outage. Call Centers routinely utilize a number of indicators to assist them in determining the level of their performance in providing service to the customer. The two most frequently cited indicators are the Average Speed of Answer (ASA) and the Abandoned Call Rate (ACR). The wait time that a customer experiences before they are able to report their information to a service representative is defined as the ASA and is measured in seconds. The ACR reflects the percentage of the calls that are abandoned before they are handled because of excessive wait times. Ameren computes a Percent Answered, which is a similar indicator to the ACR. The following table reflects figures associated with calls handled by the service representatives and illustrates their performance during the Monday through Friday following these storms.

Contact Center Performance Indicators

	7/05/04	7/06/04	7/07/04	7/08/04	7/09/04
Calls Handled	7,331	23,338	15,340	10,290	8,242
Average Speed of Answer	5:18	1:29	1:58	1:34	1:26
Percent Answered *	91.2%	88.1%	83.8%	83.2%	91.0%
Talk Time	1:43	2:10	2:34	2:40	2:39

*Percent answered is calculated here by the Company as an alternative to the Abandoned Call Rate (ACR). The ACR would be the difference between 100% and the percent answered.

Source: Ameren

These statistics reflect the response of the three groups of Ameren employees (AmerenUE, AmerenCIPS and AmerenCILCO) that had responsibility for answering the phone and making a personal contact with the customer.

An additional method by which customers could check on the progress of the service restoration efforts was the Ameren.com website. Updates were made to the site several times a day in order to provide an additional method of communicating with the public. The web page saw a tremendous increase in the number of hits. The Storm Center page had over 11,000 hits to its page during the storm.

There were two areas within the operations of the Contact Center that the Staff believes should be reviewed for potential improvements with respect to its storm restoration response. These areas pertain to the information regarding the customer's expected outage time and the call back verification process.

Expected Outage Time

Customers calling to report an outage either through the VRU or with an agent are able to receive some information regarding the anticipated restoration time for their area. As indicated earlier, customers using the VRU to report an outage are given an estimated restoration time and an indication of the number of other customers also out of service. The estimated restoration time is computed with an algorithm. This formula looks at the number of jobs, types of orders, staffing, cause of outage and other factors to develop an estimate of the restoration time. Estimates are programmed to be on the high side or overestimated to give customers more of a positive experience when their service is restored in less time than anticipated.

While the Staff believes that it is important to be able to provide the customer with some assessment of the amount of time that service will be out, it can also be a cause of additional frustration when the Company does not make these targeted times. The extremely high level of outages caused the expected restoration times to be very inaccurate. The Company became aware of this as customers called in on repeat calls to inquire further as to why their service was still not restored. This became such a problem that at one point, the Company instructed its agents not to quote to customers the restoration times that the outage system was computing. The Company's inability to meet these times was actually becoming more of a frustration to the customer than no estimate of restoration at all. A decision was made however to leave the estimate of a restoration time on the VRU system. The process required to turn off the restoration estimate would have significantly reduced the Company's inbound call capability while the changes were made. Additionally, to make the change quickly, testing would have been severely limited. The option of implementing a programming change that could not be fully tested coupled with reducing inbound call handling was deemed an unacceptable risk by the Company.

The Staff has been supportive of the Company providing the customer with an estimate of the restoration time associated with their outage. However, it appears that the algorithm used to calculate these times becomes inaccurate when applied to a large outage. The Company should do further testing of the present method to determine if there is a level at which it becomes very difficult to be accurate. If this limitation can be identified and corrected for, an alternative method that can be used under these conditions should be developed in order to continue to provide customers with some estimate of their restoration time.

Outage Restoration Verification Call Back Process

Once an outage call is received, an order is created to work the outage in the field. After the cause of the outage has been repaired and the order is closed, a call back verification is made to any customer that made an initial call to report the outage. If the service is restored between the hours of 7:00 AM and 10:00 PM, a call is made through an automated system to the customers who reported an outage. If the customer answers the phone, they hear the following script:

> "Hello, this is Ameren. We are calling to notify you that power has been restored in your area. If power has been restored at your location, press 1. If power has not been restored, press 2."

If the customer indicates that the power is still off, the customer is told that a repair order is being generated. The system then updates the call records.

If the customer is not home, the following message is left:

> "Hello, this is Ameren. We are calling you to notify you that power has been restored in your area. We're sorry that we missed you."

The call back system can be an effective way to communicate with customers and confirm the restoration of their service. However, for those instances where the customer was not at home and was left a message or was home and did not understand the message, it caused greater frustration. Some customers came home to hear a recorded message that their service was restored when they were still in the dark. The Company should reevaluate the effectiveness of the message they leave under these circumstances and consider alternative wording that directs the customer what to do if their power has not been restored.

Consumer Complaints & Comments

As with most major outage situations, the restoration period required to return service to many of the customers impacted, the inconvenience of not having power during warm weather during the days and no electric lights at night, loss of frozen goods possibly worth hundreds of dollars and seeing utility and contractor trucks driving around that did not appear to be doing anything to help particular customers with their immediate situation resulted in a significant number of informal complaints and public comments being entered into the Commission's EFIS system. The following table summarizes the number and types of complaints that were received at the Commission related to this outage event:

AmerenUE Outage Statistics for 7/5/04 to 8/20/04			
Outage Complaints	**31**	**Primary Comments:**	
Public Comments	**31**	Unhappy with Duration of Outage	**38**
Total	**62**	Automated System Problems	**9**
		Wire/Pole Down	**9**
Complaints < 24 hrs	**37**	Media & Company Information	
Complaints 24 to 36 hrs	**6**	Inconsistent	**3**
Complaints > 36 hrs	**19**	Poor Management of Outage	**3**

As this table shows, a majority of the complaints related to how long service was out. Many of these customers were very unhappy with the length of the outage and the apparent activity of utility and contract crews but no apparent work in their immediate vicinity. As previously noted, a number of customers were also unhappy with restoration estimates that were provided by the automated calling system that ended up being wrong. The number of complaints and comments in the table above does not include the phone calls that were received by Staff. Staff received numerous phone calls during, and in the days after, the outage restoration effort from these storms.

Contact with City Officials & Agencies

In Staff's report following the major ice storm in January of 2002, the following recommendation was directed at AmerenUE:

> *Contact city officials and agencies impacted by extended electric outages twice a year to update telephone and personnel changes.*

This recommendation was in response to numerous complaints directed at Kansas City Power & Light and Aquila by city officials and agencies impacted by electric outages indicating that communications during the ice storm were not adequate. Unlike the ice storm of January 2002, the Commission did not receive a significant number of inquiries from city officials or agencies concerned with a lack of communication with AmerenUE during the restoration period from this major outage. AmerenUE's Storm Restoration Guide provides information and direction on contact with city emergency management organizations, county emergency management organizations and the Commission. AmerenUE followed their procedures during this event and contacted these organizations. Follow-up contact with these organizations was established with different organizations according to their individual request.

Vegetation Management

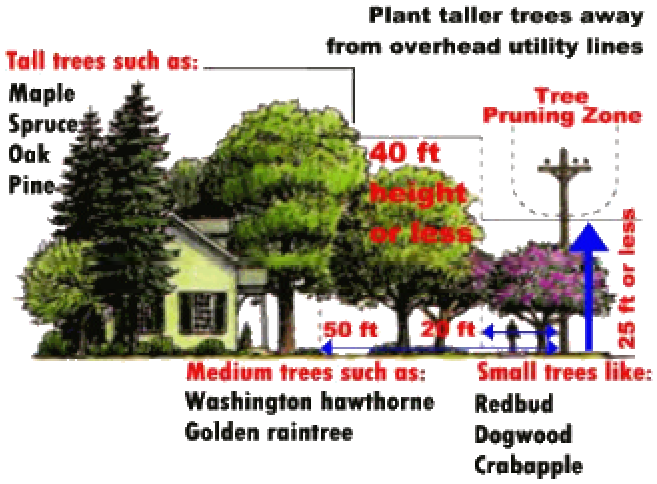
In Staff's report following the major ice storm in January of 2002, the following recommendation was directed at AmerenUE:

> *Maintain scheduled trim cycles for tree trimming/vegetation management for both rural and urban areas to ensure safe and reliable service. Evaluate the results of these programs on a regular basis and make changes as necessary.*

This recommendation was a result of Staff's belief that a correlation between tree trim cycles and damage to distribution lines from tree limbs can be established and Staff's observations supporting this belief regarding tree trim cycles versus circuit outages following the major ice storm in January of 2002. AmerenUE also recognizes that trees and vegetation must be kept clear of electric power lines to minimize the likelihood of safety hazards and power outages. AmerenUE's website provides a significant amount of information to customers who may have questions regarding tree trimming and why it is necessary. AmerenUE's website includes the following on why trimming is necessary:

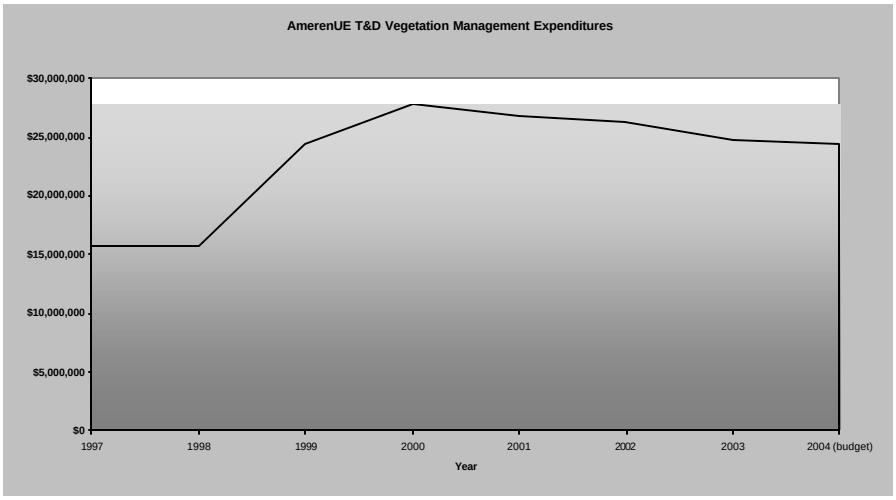
> *Fallen trees and branches are a primary cause of electric power outages. Trimming trees and managing right-of-way vegetation can prevent many outages. Trees that come in contact with energized wires can threaten public safety. Removing limbs that have the potential to contact an energized wire is a necessary part of our line-clearance program.*

AmerenUE's website also provides the following diagram to assist customers in determining where and what kind of trees they can plant in the portions of their property that are near power lines:

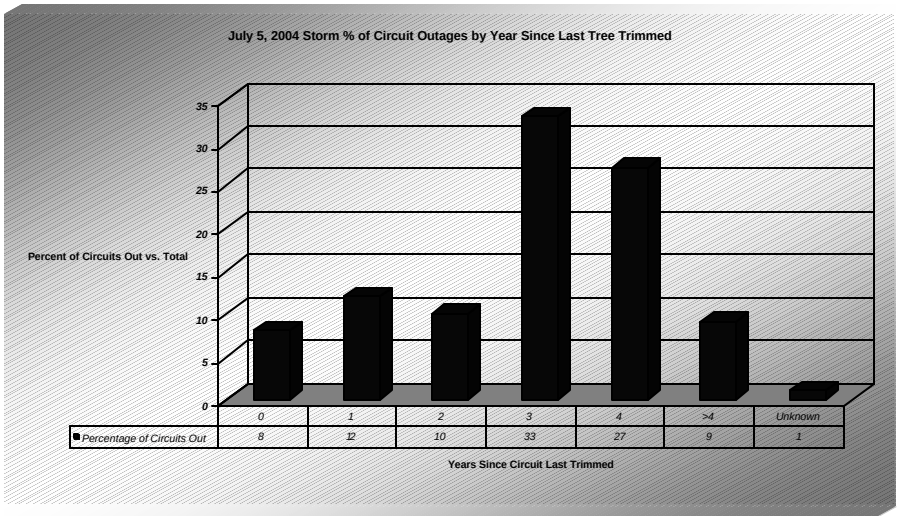


Staff discussed the topic of vegetation management with AmerenUE several times in the course of this informal investigation and the docket that is currently active with the Commission regarding the vegetation management practices of AmerenUE. AmerenUE's internal vegetation management plan is to keep all suburban distribution lines trimmed within a 4 year cycle and all rural distribution lines trimmed within a 6 year cycle. In 2001 AmerenUE believes that they were actually at about a 5 year trim cycle in suburban areas and a 7 plus year trim cycle in rural areas with an average trim cycle across their system of about 6 ½ years. At this time AmerenUE believes that they are actually at a 5 plus year trim cycle in suburban areas and a little less than 7 years in rural areas with an average that is still about 6 ½ years. Transmission lines are treated differently than distribution lines due to their higher level of importance in delivery of power to large areas and are looked at every year with trimming occurring every 5 to 6 years on average with herbicide applications taking place more frequently than trimming. What these numbers show is that AmerenUE is behind on their distribution system tree trimming cycles in suburban and rural areas and that this situation has not improved over the last 3 years.

Staff's concerns with AmerenUE's tree trimming cycle situation resulted in several questions regarding recent and projected budgets to support vegetation management. In Staff's informal investigation following the ice storm in January of 2002 it was observed that AmerenUE had generally increased its expenditures on vegetation management from 1998 to 2001 with a slight decrease in 2001 vs. 2000. It was anticipated in 2002 that AmerenUE would be able to make some progress on its vegetation management schedules with these increases in expenditures. At this time, Staff's view of AmerenUE's vegetation management trim cycles is that this situation has not improved. The following chart shows that AmerenUE has not increased its vegetation management expenditures since 2000 and has in fact been spending less each year since 2000.



Staff also looked at circuit outages versus tree trim cycles and was provided with the following information by AmerenUE on the circuit outages from the storms on July 5, 2004:



This chart illustrates that the circuits that had been trimmed 3 or 4 years ago made up 60% of the circuits that were out as a result of these storms. Circuits that had last been trimmed less than 3 years ago made up 30% of the total. It should be noted that all of this data might reflect differences in storm damage density versus circuit trim cycles in particular areas and therefore may reflect some circumstances beyond just how recently the circuit was trimmed. An anomaly in the data was observed in circuits that were trimmed 5, 6 or more years ago. As noted, this may be an issue with the distribution of these circuits versus where the greatest density of storm damage was observed.

Commission rules regarding tree trimming are by adoption of the appropriate parts of the *American National Standard, National Electric Safety Code* (NESC); 2002 Edition as approved by the American National Standards Institute on June 14, 2001. The Commission adopts this standard through its rule 4 CSR 240-18.010 and adoption of Part 2 titled: "Safety Rules for the Installation and Maintenance of Overhead Electric Supply and Communication Lines". All electric utilities and telecommunications companies and rural electric cooperatives subject to regulation by the Commission pursuant to Chapters 386, 392-394, RSMo are required to adhere to the safety standards established by 4 CSR 240-18.010.

NESC 218 “Tree Trimming” provides the following guidance:

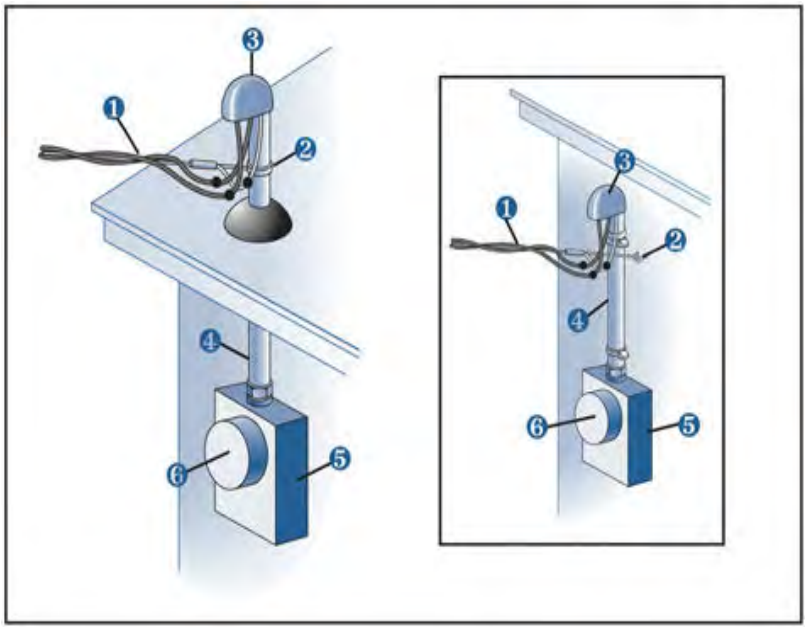
A. General
   1. Trees that may interfere with ungrounded supply conductors should be trimmed or removed.
      Note: Normal tree growth, the combined movement of trees and conductors under adverse weather conditions, voltage, and sagging of conductors at elevated temperatures are among the factors to be considered in determining the extent of trimming required.
   2. Where trimming or removal is not practical, the conductor should be separated from the tree with suitable materials or devices to avoid conductor damage by abrasion and grounding of the circuit through the tree.

B. At Line Crossings, Railroad Crossings, and Limited-Access Highway Crossings
   The crossing span and the adjoining span on each side of the crossing should be kept free from overhanging or decayed trees or limbs that otherwise might fall into the line.

In the following section of this report Staff describes vegetation management policies in other states. Staff’s view of the tree trimming provisions of neighboring states is that they are similar to those currently in place in Missouri as they are primarily “guidance” oriented versus a list of specific requirements. Oklahoma is a notable exception to this observation and does require a 4 year trim cycle through its rules.

As a result of the observations in this report regarding vegetation management practices at AmerenUE and their current status, Staff strongly recommends that AmerenUE immediately implement programs to begin addressing the existing backlog in tree trimming cycles of its distribution systems in rural and suburban areas. AmerenUE’s efforts to address this current backlog in distribution system trimming should not be implemented through any types of reductions in current efforts to adequately control vegetation along their transmission system corridors or in reductions in efforts in other areas that could impact system reliability or safety. Staff notes that AmerenUE has policies currently in place regarding vegetation management, working with impacted landowners and public relations. AmerenUE should not diminish or stop applying any of these customer relation policies or practices in its efforts to address this current backlog in tree trimming work.

It should be noted that a significant number of customers had the service line to their home damaged by trees and/or tree limbs and this caused their outage. AmerenUE has limited responsibilities in returning customers to service who have facilities damaged that are not AmerenUE's responsibility to maintain or repair. AmerenUE is not responsible for vegetation management along the service line where it drops from AmerenUE's distribution line to the customer's connection on their residence. AmerenUE will disconnect power from a service drop for no charge if a customer wishes to trim the vegetation along these service drops safely. AmerenUE recommends that customers hire a professional tree service to do this trimming. The following diagram helps to illustrate which portions of the connection to the customer's house AmerenUE installs and maintains (diagram from Kansas City Power & Light website):



Typical overhead service drop connection elements to home & their descriptions:

1) **Service Line (Service Drop)**
2) Service Bracket
3) Weatherhead
4) Pipe Riser
5) Meter Can
6) **Electric Meter**

AmerenUE installs and maintains these items but is not responsible for vegetation trimming along the service drop.

The items identified above that are not AmerenUE's responsibility to install or maintain are the customer's responsibility to have repaired if they are damaged. If a meter box is pulled away from the home and a customer has no power the utility may perform a temporary fix to provide power. A qualified electrician should do any of the work required to restore service that is not provided by AmerenUE.

Vegetation Management Policies in Other States

As part of Staff's investigation for this report, the Staff reviewed the vegetation management practices of neighboring states. The following is a summary of Staff's findings regarding vegetation management in neighboring states:

Arkansas
The Arkansas Public Service Commission's Special Rules – Electric, Section 4, Maintenance, Rule 4.03 "Tree Trimming", is a one-half page rule that outlines general principles to be considered when tree trimming that includes but is not limited to economics, the goodwill of property owners, normal tree growth and movement under adverse weather conditions.

Illinois
The Illinois Public Utilities Act, which was enacted by the Illinois legislature, is over 300 pages in length. Article VIII of this act is titled "Service Obligations and Conditions". Within Article VIII is Section 8-505.1, which consists of one and one-half pages that are titled "Non-emergency vegetation management activities". Almost all of this section is devoted to notifying municipalities and individuals of vegetation management activities planned in the near future and resolving disputes regarding tree trimming. In addition, this section establishes the American National Standards Institute's ANSI A300 as the source for tree care and maintenance standard practices.

In practice, Illinois monitors each utility's vegetation management practices as a part of the annual reliability reports that are submitted to the Commission each year and the Staff subsequently reports on any alleged deficiencies regarding vegetation management. Tree trimming targets in Illinois for the cycle length between trimmings is 3 to 4 years for urban lines and 3, 4, 5 or 4 plus years for rural lines. These targets are determined by each individual utility. In addition, reports by the Illinois Staff and Orders by the Illinois Commission refer to Rule 218 of the National Electric Safety Code, which is discussed in the previous section of this report relative to Missouri's tree trimming rule provisions.

Iowa
Iowa's Electric Safety Code includes section 199-25.3(3)c. titled "Tree trimming or vegetation management plan". The initial plan for each utility is filed with the Iowa Utilities Board as well as any amended or altered, revised copies of the plan. The plan includes a schedule for periodic tree trimming or other measures to control vegetation growth. The schedule may vary depending on the nature of the vegetation at different locations. The plan also includes written procedures for vegetation management.
In addition, as part of each utility's annual report on various matters to the Board, the utility shall certify compliance with the vegetation plan or a detailed statement on areas of non-compliance. The Iowa Code references the National Electric Safety Code and the American National Standards Institute's ANSI A300 tree care and maintenance standard.

Kansas
As part of its recently adopted Electric Reliability Requirements, Section 4.(h) states "Each utility should maintain clearances of vegetation from the utility's overhead transmission and primary distribution facilities sufficient to avoid limb contact under design-basis events." Kansas does not have any additional requirements that specifically address vegetation management.

Oklahoma
On March 23, 2004, the Oklahoma Corporation Commission approved Electric Service and Reliability Rules that included Section 165:35-25-15, "Vegetation Management Plan". This section requires that each electric utility prepare and submit an annual vegetation management plan as part of its Reliability program. The utility is required, at a minimum, to perform vegetation management on a 4-year cycle; however, the utility can request an exemption from this requirement. In addition, Section 165:35-25-16, "Notification of Vegetation Management Activities", requires the utility to make a reasonable attempt to notify the landowner, customer or tenant prior to beginning work on the property.

Nebraska
All of Nebraska's electric service providers are municipalities or cooperatives. Nebraska's Commission does not have regulatory authority over the vegetation management practices of these utilities. In Omaha the Omaha Public Power District (OPPD) policy for tree trimming is to attempt to trim back vegetation on a 3 year cycle. Trim distances vary depending on tree type and expected growth in 3 years and voltage. OPPD is currently at about a 3 ½ year cycle length and has been there for about 5 years.

Kentucky
The Kentucky Public Service Commission's rules address vegetation management through adoption of NESC. No additional vegetation management provisions are addressed through their rules. Cooperatives and municipals in Kentucky generally operate on 3 or 4 year vegetation trimming cycles.

The table on the following page summarizes the vegetation management policies of our neighboring states.

Comparison of Tree Trimming Guidelines of Neighboring States			
State	Minimum Vegetation Management Cycle?	Adopted National Electric Safety Code?	Additional Guidelines/ Rules/ Statutes on Tree Trimming
Missouri	**No**	**Yes**	**No**
Arkansas	No	Yes	Restates NESC Rule 218 and has one additional sentence encouraging consideration of the goodwill of property owners and economic trimming cycles.
Illinois	No	Yes	2.5 pages, One sentence references ANSI A300 tree trimming standards, Remaining document addresses the rights of individual customers and municipalities regarding notification and supervision of tree trimming activities.
Iowa	No	Yes	5 sentences addressing filing initial tree trimming plan, modifying that plan, filing annual report on tree trimming activities and references ANSI A300 tree trimming standards.
Kansas	No	Yes	One Sentence encouraging tree trimming that is sufficient to avoid limb contact under design-basis events.
Kentucky	No	Yes	No
Nebraska	No	Not Statewide	No, Not Statewide. Some municipals and cooperatives have additional guidelines but many do not.
Oklahoma	Yes, 4 years	Yes	One-half page addressing the requirement for submitting the annual vegetation management plan filing, specifying that the minimum vegetation cycle is a 4-year cycle unless a exemption is requested and requiring cost tracking for vegetation management activities.

Conclusions & Recommendations

The Staff concludes that:

1) The St. Louis metropolitan area experienced two bands of severe thunderstorms on July 5, 2004, that included very high winds, large hail, torrential rains and an extraordinary density of lightning strokes.

2) Much of the damage to AmerenUE's distribution system was the result of high winds and severe damage to trees throughout the area impacted by these storms.

3) AmerenUE had an emergency plan in place and executed it promptly in response to these storms.

4) AmerenUE sought outside assistance in a timely manner and retained these crews for the timeframe they could be productive. Staff's concerns regarding the availability of crews from the organizations contacted resulted in one of the recommendations below.

5) AmerenUE's Outage Analysis System worked correctly and helped in the assessment of damage and allocation of crews to restore service.

6) Telephone systems for reporting outages, including overflow provisions, acted appropriately during this major outage event.

7) Automated callback systems providing information on restoration times and for determining if customers had their service restored exhibited some problems that are addressed in two of the recommendations below.

8) Tree trimming remains a critical element in limiting the impact of future storms on AmerenUE's transmission and distribution system, and funding levels must be adjusted as appropriate to provide for trimming cycles that balance the safety and reliability of the system with the concerns of customers who have trees and power lines on their property. Staff's observations in this area result in one of the recommendations below.

As noted in the different sections of this report, Staff's informal investigation of AmerenUE's storm restoration effort following the severe thunderstorms that passed through the St. Louis area on July 5, 2004, result in the following recommendations at this time:

1) Staff strongly recommends that AmerenUE immediately implement programs to begin addressing the existing backlog in the tree trimming cycles of its distribution systems in rural and suburban areas. AmerenUE's efforts to address this current backlog in distribution system trimming should not be implemented through any types of reductions

in current efforts to adequately control vegetation along their transmission system corridors or in reductions in efforts in other areas that could impact system reliability or safety. Staff notes that AmerenUE has policies currently in place regarding vegetation management, working with impacted landowners and public relations. AmerenUE should not diminish or stop applying any of these customer relation policies or practices in its efforts to address this current backlog in tree trimming work.

2) Staff recommends that AmerenUE review the current utility mutual assistance agreement they participate in and confirm that reasons other than actual crew availability are not resulting in a reduction in availability of outside crews when they may actually be available under different terms and/or conditions.

3) Staff recommends that AmerenUE examine the limitations of the algorithm being used to estimate restoration times for customers. The Staff has been supportive of the Company providing the customer with an estimate of the expected restoration time associated with their outage. However, it appears that the algorithm used to calculate these times becomes inaccurate when applied to a large outage. The Company should review the methods used to develop these times to determine what circumstances make these calculations inaccurate. If these limitations can be identified and corrected for, an alternative method should be developed that can be used under these conditions in order to continue to provide customers with some estimate of their restoration time.

4) Staff recommends that AmerenUE evaluate the effectiveness of the messages they leave the customer with the callbacks conducted to verify the restoration of service. AmerenUE should develop some alternative wording that clarifies what these messages are intended to convey and more clearly directs the customer on what to do if their power has not been restored. While the callback system can be an effective way to communicate with the customer, some customers misunderstood the present system messages.

5) Staff recommends that AmerenUE add language to their medical equipment registry enrollment letters that clearly states that medical equipment registry customers may experience lengthy outages as a result of major disruptions to AmerenUE's system, including severe weather, and that medical equipment registry customers are not ensured priority treatment during restoration efforts to repair AmerenUE's distribution system following these events.